

CLAIMS

1. An intraluminal catheter system, comprising:  
a first tubular member having a proximal end and a distal end and having a fluid containing lumen therethrough;  
a medical device coupled to said first tubular member proximate said distal end;  
a slave actuating member coupled to said medical device and slidably mounted proximate said distal end for longitudinal movement with respect to said first tubular member; and  
a master actuating member configured for longitudinal movement within said first tubular member proximate said proximal end, said master actuating member hydraulically coupled to said slave actuating member.
2. A system according to claim 1 wherein said slave actuating member is configured for movement within said lumen.
3. A system according to claim 1 wherein said lumen has a constant diameter.
4. A system according to claim 3 wherein said first tubular member comprises a hypotube.
5. A system according to claim 1 wherein said master actuating member comprises a first plunger.
6. A system according to claim 5 wherein said slave actuating member comprises a second plunger configured for telescopic movement within said first tubular member, said second plunger extending beyond said distal end of said first tubular member.
7. A system according to claim 5 wherein said slave actuating member comprises a second tubular member configured for telescopic movement with respect to said first tubular member, said second tubular extending over said distal end of said first tubular member.
8. A system according to claim 1 wherein said medical device comprises an expandable filter for capturing emboli.

9. A system according to claim 1 wherein said medical device comprises an expandable occluder.
10. A system according to claim 6 further comprising a sealing member fixedly attached to said second plunger for providing a fluid seal between said first tubular member and said second plunger.
11. A system according to claim 7 further comprising a sealing member fixedly attached to said second tubular member for providing a fluid seal between said first tubular member and second tubular member.
12. A system according to claim 8 wherein said filter comprises a proximal region having a plurality of openings therein of sufficient size for emboli to pass through.
13. A system according to claim 12 wherein said filter comprises a distal region having a plurality of pores therein of a size sufficiently small to capture the emboli.
14. A system according to claim 13 wherein at least said distal region is a mesh.
15. A guidewire apparatus comprising:
  - a first tubular member having a proximal end and a distal end and having a fluid containing lumen therethrough;
  - a slave actuating member slidably mounted proximate said distal end for longitudinal movement with respect to said first tubular member; and
  - a master actuating member configured for longitudinal movement within said first tubular member proximate said proximal end, said master actuating member hydraulically coupled to said slave actuating member.
16. A system according to claim 15 wherein said slave actuating member is configured for movement within said lumen.
17. A system according to claim 15 wherein said lumen has a constant diameter.

18. A system according to claim 17 wherein said first tubular member comprises a hypotube.
19. A system according to claim 15 wherein said master actuating member comprises a first plunger.
20. An apparatus according to claim 19 wherein said slave actuating member comprises a second plunger configured for telescopic movement within said first tubular member, said second plunger extending beyond said distal end of said first tubular member.
21. An apparatus according to claim 19, wherein said slave actuating member comprises a second tubular member configured for telescopic movement with respect to said first member, said second tubular extending over said distal end of said first tubular member.
22. An apparatus according to claim 20 further comprising a sealing member fixedly attached to said second plunger for providing a fluid seal between said first tubular member and said second plunger.
23. An apparatus according to claim 21 further comprising a sealing member fixedly attached to said second tubular member for providing a fluid seal between said first tubular member and second tubular member.
24. An intraluminal catheter system, comprising:
  - a first tubular member having a proximal end and a distal end and having a fluid containing lumen therethrough;
  - a medical device coupled to said first tubular member proximate said distal end;
  - a master actuating member telescopically mounted within said lumen proximate said proximal end and configured to longitudinal movement therein; and
  - a slave actuating member telescopically mounted within said lumen proximate said distal end and configured for longitudinal movement therein, said slave actuating member coupled to said medical device and hydraulically coupled to said master actuating member.
25. A system according to claim 24 wherein said lumen has a constant diameter.

26. A system according to claim 25 wherein said first tubular member comprises a hypotube.
27. A system according to claim 24 wherein said master actuating member comprises a first plunger.
28. A system according to claim 27 wherein said slave actuating member comprises a second plunger extending beyond said distal end of said first tubular member.
29. A system according to claim 24 wherein said medical device comprises a filter for capturing emboli.
30. A system according to claim 24 wherein said medical device comprises an occluder.
31. A system according to claim 28 further comprising a sealing member fixedly attached to said second plunger for providing a fluid seal between said first tubular member and said second plunger.
32. A system according to claim 29 wherein said filter comprises a proximal region having a plurality of openings therein of sufficient size for emboli to pass through.
33. A system according to claim 32 wherein said filter comprises a distal region having a plurality of pores therein of a size sufficiently small to capture the emboli.
34. A system according to claim 33 wherein at least said distal region comprises a mesh.